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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,378	04/09/2007	Ewald Schmidt	10191/4231	6846

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EXAMINER	
MANCUSO, HUEDUNG XUAN CAO	
ART UNIT	PAPER NUMBER
2821	
MAIL DATE	DELIVERY MODE
05/06/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/577,378	SCHMIDT ET AL.	
	Examiner	Art Unit	
	HUEDUNG Cao MANCUSO	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 May 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21,23-31 and 34-36* is/are rejected.

7)☒ Claim(s) *22,32,33 and 37-41* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 April 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/06,5/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 21, 23-31, 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fowler et al. (US 5438697).

As to claim 21, Fowler (figures 1-3) teaches an antenna system for a radar application in a motor vehicle, comprising: an antenna feeding substrate 72 having conductor structures for field coupling to at least one planar antenna radiating element 22; and a mounting part 150, able to be fixed in position against the antenna feeding substrate, for the at least one planar antenna radiating element, one of the mounting part and a housing part able to be joined to the at least one planar antenna radiating element with form locking being provided for an HF-shielding of the antenna feeding substrate, wherein at least one of the mounting part and the housing part is structured in such a way that, viewed from the at least one planar antenna radiating element in a radiation direction, a wave guidance is achieved. It is noted that Fowler does not explicitly disclose at least one of the mounting part and the housing part is structured in such a way that, viewed from the at least one planar antenna radiating element in a radiation direction, a wave guidance is archieved (see figs. 1-3, and col. 4, lines 12-17). Since Fowler' s antenna structure is similar to Applicant's antenna system; therefore they would function substantially the same.

As to claim 23, wherein the at least one planar antenna radiating element is applied on at least one side of a dielectric substrate (see col. 4, lines 12-17).

As to claim 24, wherein the housing part includes at least one cut-out for introducing one of the at least one planar antenna radiating element and the dielectric substrate, in case the at least one planar antenna radiating element is applied on the latter, or for forming at least one complementary, planar antenna radiating element, a cut-out forming a slot antenna (see fig. 3, slot 32).

As to claims 25-27, 36, wherein a distance between the antenna feeding substrate and one of the at least one planar antenna radiating element and the dielectric substrate is less than one fourth an operating wavelength; wherein a distance between the antenna feeding substrate and one of the at least one planar antenna radiating element and the dielectric substrate is 0.02 to approximately 0.1 of an operating wavelength; wherein in a region of the at least one planar antenna radiating element, a housing part includes at least one opening in a direction of the antenna feeding substrate, and a transition from a bottom/end of the at least one opening to an outside of the housing part is designed to be one of horn-shaped and funnel-shaped; wherein different distances are provided between the coupling slots and/or the antenna radiating elements. While Fowler does not specify the exact location or shape, the exact shape and location are something that one of ordinary skill in the art would know how to best design for the optimum operation of the device when taking into consideration the size available for the device and the preferred cost in making the device

As to claim 28, wherein the mounting part itself forms the housing part (see fig. 3).

As to claims 29-31, wherein one of the mounting part and the housing part includes an outer cover made of a dielectric material that is formed and dimensioned in such a way that the outer cover can be used as one of a radome and a superstrate; wherein the outer cover, in a region of a cut-out, has at least one projection that engages with form locking in an opening; wherein the outer cover, in the case of complementary (inverse) planar antenna radiating elements, the at least one projection protrudes through the cut-out. (see fig.3, and col. 6, lines 27-49).

As to claim 34, wherein the mounting part has snap-in locking elements for introducing and fixing the at least one planar antenna radiating element in position (see fig. 3)

As to claim 35, wherein M antenna radiating elements are provided, and N associated coupling slots in the antenna feeding substrate (1) for the field coupling, M and N being natural numbers, and M being greater than N (see figures 1-3, col. 3, line 62-col. 4, line 50).

Allowable Subject Matter

3. Claims 22, 32-33, 37-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the Prior art fails to specifically teach that wherein the housing part includes bars in a direction of the antenna feeding substrate for forming HF compartments over the antenna feeding substrate.; wherein the at least one planar antenna radiating element is embedded by being injected into the mounting part; wherein the at least one planar antenna radiating element is incorporated into a

dielectric functional part that is insertable, with form locking, into an opening of one of the mounting part and a supplementary part. at least two antenna radiating elements are provided, stacked one above the other, at least one of the antenna radiating elements in particular being incorporated into a dielectric functional part or a radome.; wherein at least two planar antenna radiating elements and/or inverse, planar antenna radiating elements are inclined relative to each other with respect to their surface normals; wherein both planar antenna radiating elements and inverse, planar antenna radiating elements are provided, the inverse, planar antenna radiating elements being inclined relative to each other with respect to their surface normals; wherein the number of planar antenna radiating elements differs from the number of inverse, planar antenna radiating elements; wherein the inverse, planar antenna radiating elements are situated in the mounting part, and the planar antenna radiating elements in a cover.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUEDUNG Cao MANCUSO whose telephone number is (571)272-1939. The examiner can normally be reached on 6:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Owens can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Huedung Cao Mancuso/
Examiner, Art Unit 2821